

forming a metal seed layer on the barrier layer by reacting the barrier layer with a first plating solution; and

forming a metal layer on the metal seed layer by exposing the substrate to a second plating solution.

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2. (Amended) The method of claim 1, wherein said barrier layer is a layer of material selected from the group consisting of titanium, titanium nitride, tantalum, tantalum nitride, tungsten nitride, tungsten-tantalum alloys, and tantalum silicon nitride[, and other ternary compounds].

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47. (Amended) A method of forming a metal interconnect for a semiconductor circuit, comprising the steps of:

providing a semiconductor substrate having electronic devices formed thereon;

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forming a barrier layer, containing a reducing agent, on a top surface of the substrate and the devices;

forming a metal seed layer on the barrier layer by reacting the barrier layer with a first plating solution; and

forming a metal interconnect layer on the metal seed layer by exposing the substrate to a second plating solution.

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~~50~~. (Amended) The method of claim ~~47~~, wherein the barrier layer is a layer of material selected from the group consisting of titanium, titanium nitride, tantalum, tantalum nitride,

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cond tungsten nitride, tungsten-tantalum alloys, and tantalum silicon nitride[, and other ternary compounds].

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82. (Amended) The method of claim ~~81~~⁸⁴, wherein the barrier layer is a layer of material selected from the group consisting of titanium, titanium nitride, tantalum, tantalum nitride, tungsten nitride, tungsten-tantalum alloys, and tantalum silicon nitride[, and other ternary compounds].

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~~100~~. (Amended) The method of claim ~~96~~¹⁰³, wherein the barrier layer is a layer of material selected from the group consisting of titanium, titanium nitride, tantalum, tantalum nitride, tungsten nitride, tungsten-tantalum alloys, and tantalum silicon nitride[, and other ternary compounds].

[Please add the following new claims:

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~~112~~. (New) The method of claim 1, wherein the barrier layer contains a ternary compound.

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~~113~~. (New) The method of claim ~~47~~⁷⁶, wherein the barrier layer contains a ternary compound.

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~~114~~. (New) The method of claim ~~81~~⁸⁵, wherein the barrier layer contains a ternary compound.

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~~115~~. (New) The method of claim ~~96~~¹¹⁴, wherein the barrier layer contains a ternary compound.
